

## RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number:	10/507, 237,
Source:	Pallo
Date Processed by STIC:	9/17/64
•	

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.2 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail. Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom. Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

- 1. EFS-Bio (<http://www.uspto.gov/ebc/efs/downloads/documents.htm>, EFS Submission User Manual ePAVE)
- 2: U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
- Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 06/05/04):
   U.S. Patent and Trademark Office, 220 20<sup>th</sup> Street S., Customer Window, Mail Stop Sequence, Crystal Plaza Two, Lobby, Room 1B03, Arlington, VA 22202

Revised 05/17/04



PCT

RAW SEQUENCE LISTING

DATE: 09/17/2004

to San Sametalle despera

PATENT APPLICATION: US/10/507,237

24 <170> SOFTWARE: FastSEQ for Windows Version 4.0

TIME: 12:20:48

Input Set : A:\21051yp.txt

Output Set: N:\CRF4\09172004\J507237.raw

```
4 <110> APPLICANT: Emini, Emilio A.
              Shiver, John W.
      5
              Casimiro, Danilo R.
      6
              Bett, Andrew J.
              Liang, Xiaoping
              Fu, Tong-Ming
     11 <120> TITLE OF INVENTION: METHOD OF INDUCING AN ENHANCED IMMUNE
              RESPONSE AGAINST HIV
     14 <130> FILE REFERENCE: 21051YP
C--> 16 <140> CURRENT APPLICATION NUMBER: US/10/507,237
C--> 16 <141> CURRENT FILING DATE: 2004-09-09
     16 <150> PRIOR APPLICATION NUMBER: PCT/US03/07727
     17 <151> PRIOR FILING DATE: 2003-03-12
     19 <150> PRIOR APPLICATION NUMBER: 60/363,807
     20 <151> PRIOR FILING DATE: 2002-03-13
     22 <160> NUMBER OF SEQ ID NOS: 5
```

Dose Not Comply Corrected Diskette Needec

## ERRORED SEQUENCES

```
1343 <210> SEQ ID NO: 5
1344 <211> LENGTH: 35759
1345 <212> TYPE: DNA
1346 <213> ORGANISM: Adenovirus serotype 6
1348 <400> SEQUENCE: 5
1349 catcatcaat aatatacctt attttggatt gaagccaata tgataatgag ggggtggagt 60
1350 ttgtgacgtg gcgcggggcg tgggaacggg gcgggtgacg tagtagtgtg gcggaagtgt 120
1351 gatgttgtaa gtgtggcgga acacatgtaa gcgccggatg tggtaaaagt gacgtttttg 180
1352 gtgtgcgccg gtgtacacgg gaagtgacaa ttttcgcgcg gttttaggcg gatgttgtag 240
1353 taaatttggg cgtaaccaag taatatttgg ccattttcgc gggaaaactg aataagagga 300
1354 agtgaaatet gaataattet gtgttaetea tagegegtaa tatttgteta gggeegeggg 360
1355 gactttgacc gtttacgtgg agactcgccc aggtgttttt ctcaggtgtt ttccgcgttc 420
1356 cgggtcaaag ttggcgtttt attattatag tcagctgacg cgcagtgtat ttatacccgg 480
1357 tgagtteete aagaggeeae tettgagtge eagegagtag agttttetee teegageege 540
1358 tecgaeaceg ggaetgaaaa tgagaeatat tatetgeeae ggaggtgtta ttacegaaga 600
1359 aatggccgcc agtcttttgg accagctgat cgaagaggta ctggctgata atcttccacc 660
1360 tectageeat titgaaceae etaceettea egaactgiat gaittagaeg tgaeggeece 720
1361 cgaagatccc aacgaggagg cggtttcgca gatttttccc gagtctgtaa tgttggcggt 780
1362 gcaggaaggg attgacttat tcacttttcc gccggcgccc ggttctccgg agccgcctca 840
1363 cettteeegg cageeegage ageeggagea gagageettg ggteeggttt etatgeeaaa 900
1364 cettgtgeeg gaggtgateg atettacetg ceaegagget ggettteeae ceagtgaega 960
1365 cgaggatgaa gagggtgagg agtttqtgtt agattatgtg gagcaccccg ggcacggttg 1020
```

**RAW SEQUENCE LISTING**PATENT APPLICATION: **US/10/507,237**DATE: 09/17/2004

TIME: 12:20:48

Input Set : A:\21051yp.txt

Output Set: N:\CRF4\09172004\J507237.raw

1366 caggtcttgt cattatcacc ggaggaatac gggggaccca gatattatgt gttcgctttg 1080 1367 ctatatgagg acctgtggca tgtttgtcta cagtaagtga aaaattatgg gcagtgggtg 1140 1368 atagagtggt gggtttggtg tggtaatttt ttttttaatt tttacagttt tgtggtttaa 1200 1369 agaattttgt attgtgattt tttaaaaggt cctgtgtctg aacctgagcc tgagcccgag 1260 1370 ccagaaccgg agcctgcaag acctacccgg cgtcctaaat tggtgcctgc tatcctgaga 1320 1371 cgcccgacat cacctgtgtc tagagaatgc aatagtagta cggatagctg tgactccggt 1380 1372 ccttctaaca cacctcctga gatacacccg gtggtcccgc tgtgccccat taaaccagtt 1440 1373 gccgtgagag ttggtgggcg tcgccaggct gtggaatgta tcgaggactt gcttaacgag 1500 1374 tetgggeaac etttggaett gagetgtaaa egeeceagge cataaggtgt aaacetgtga 1560 1375 ttgcgtgtgt ggttaacgcc tttgtttgct gaatgagttg atgtaagttt aataaagggt 1620 1376 gagataatgt ttaacttgca tggcgtgtta aatggggcgg ggcttaaagg gtatataatg 1680 1377 cgccgtgggc taatcttggt tacatctgac ctcatggagg cttgggagtg tttggaagat 1740 1378 ttttctgctg tgcgtaactt gctggaacag agctctaaca gtacctcttg gttttggagg 1800 1379 tttctgtggg gctcctccca ggcaaagtta gtctgcagaa ttaaaggagga ttacaagtgg 1860 1380 gaatttgaag agettttgaa ateetgtggt gagetgtttg attetttgaa tetgggteae 1920 1381 caggegettt tecaagagaa ggteateaag aetttggatt ttteeacace ggggegeget 1980 1382 gcggctgctg ttgctttttt gagttttata aaggataaat ggagcgaaga aacccatctg 2040 1383 ageggggggt acctgetgga ttttctggec atgeatetgt ggagageggt ggtgagaeac 2100 1384 aagaategee tgetaetgtt gtetteegte egeeeggeaa taataeegae ggaggageaa 2160 1385 cagcaggagg aagccaggcg gcggcggcgg caggagcaga gcccatggaa cccgagagcc 2220 1386 ggcctggacc ctcgggaatg aatgttgtac aggtggctga actgtttcca gaactgagac 2280 1387 gcattttaac cattaacgag gatgggcagg ggctaaaggg ggtaaagaag gagcgggggg 2340 1388 cttctgaggc tacagaggag gctaggaatc taacttttag cttaatgacc agacaccgtc 2400 1389 ctgagtgtgt tacttttcag cagattaagg ataattgcgc taatgagctt gatctgctgg 2460 1390 cgcagaagta ttccatagag cagctgacca cttactggct gcagccaggg gatgattttg 2520 1391 aggaggctat tagggtatat gcaaaggtgg cacttaggcc agattgcaag tacaagatta 2580 1392 gcaaacttgt aaatatcagg aattgttgct acatttctgg gaacggggcc gaggtggaga 2640 1393 tagatacgga ggatagggtg gcctttagat gtagcatgat aaatatgtgg ccgggggtgc 2700 1394 ttggcatgga cggggtggtt attatgaatg tgaggtttac tggtcccaat tttagcggta 2760 1395 cggttttcct ggccaatacc aatcttatcc tacacggtgt aagcttctat gggtttaaca 2820 1396 atacctgtgt ggaageetgg accgatgtaa gggttegggg etgtgeettt taetgetget 2880 1397 ggaagggggt ggtgtgtcgc cccaaaagca gggcttcaat taagaaatgc ctgtttgaaa 2940 1398 ggtgtacctt gggtatcctg tctgagggta actccagggt gcgccacaat gtggcctccg 3000 1399 actgtggttg ctttatgcta gtgaaaagcg tggctgtgat taagcataac atggtgtgtg 3060 1400 gcaactgega ggacagggcc teteagatge tgacetgete ggacggeaac tgteaettge 3120 1401 tgaagaccat tcacgtagcc agccactctc gcaaggcctg gccagtgttt gagcacaaca 3180 1402 tactgacccg ctgttccttg catttgggta acaggagggg ggtgttccta ccttaccaat 3240 1403 gcaatttgag tcacactaag atattgcttg agcccgagag catgtccaag gtgaacctga 3300 1404 acggggtgtt tgacatgacc atgaagatct ggaaggtgct gaggtacgat gagacccgca 3360 1405 ccaggtgcag accetgegag tgtggeggta aacatattag gaaccageet gtgatgetgg 3420 1406 atgtgaccga ggagctgagg cccgatcact tggtgctggc ctgcacccgc gctgagtttg 3480 1407 gctctagcga tgaagataca gattgaggta ctgaaatgtg tgggcgtggc ttaagggtgg 3540 1408 gaaagaatat ataaggtggg ggtctcatgt agttttgtat ctgttttgca gcagccgccg 3600 1409 ccatgagege caactegttt gatggaagea ttgtgagete atatttgaca acgegeatge 3660 1410 ccccatgggc cggggtgcgt cagaatgtga tgggctccag cattgatggt cgccccgtcc 3720 1411 tgcccgcaaa ctctactacc ttgacctacg agaccgtgtc tggaacgccg ttggagactg 3780 1412 cagecteege egeegettea geegetgeag ceacegeeeg egggattgtg actgaetttg 3840 1413 ctttcctgag cccgcttgca agcagtgcag cttcccgttc atccgcccgc gatgacaagt 3900 1414 tgacggetet tttggcacaa ttggattett tgaceeggga aettaatgte gttteteage 3960

Input Set : A:\21051yp.txt

1415	agctgttgga	tctgcgccag	caggtttctg	ccctgaaggc	ttcctcccct	cccaatgcgg	4020
1416	tttaaaacat	aaataaaaac	cagactctgt	ttggatttgg	atcaagcaag	tgtcttgctg	4080
1417	tctttattta	ggggttttgc	gcgcgcggta	ggcccgggac	cagcggtctc	ggtcgttgag	4140
1418	ggtcctgtgt	attttttcca	ggacgtggta	aaggtgactc	tggatgttca	gatacatggg	4200
1419	cataagcccg	tctctggggt	ggaggtagca	ccactgcaga	gcttcatgct	gcggggtggt	4260
	gttgtagatg						
1421	tagcaagctg	attgccaggg	gcaggccctt	ggtgtaagtg	tttacaaagc	ggttaagctg	4380
	ggatgggtgc						
	gttcccagcc						
	ggtgcacttg						
	gcccttgtga						
	ggcggcggcc						
	gagatcgtca						
	ggttccatcc						
	ttcagatggg						
	ggagatcagc						
	cccgtaaatc						
	atccctgagc						
	caaatccgcc						
	tttcaacggt						
	caggcggtcc						
	tttcgcgggt						
	agggtcatgt						
	gggtgcgctc						
	aagcgctgcc						
	tccagcccct						
	gaggggcagt						
	gagtaggcat						
	tctggccgtt						
	ctggtttcca						
	acagacttga						
	gaccactctg						
	tagcggtcgt						
1448	tcttcggcat	caaggaaggt	gattggttta	taggtgtagg	ccacqtqacc	agatatteet	6000
1449	gaaggggggc	tataaaaggg	gatagaaaca	cattcatcct	cactctcttc	cqcatcqctq	6060
	tctgcgaggg						
	ctaagattgt						
	cctttgaggg						
1453	gtggcaaacg	acccgtagag	ggcgttggac	agcaacttgg	cgatggagcg	cagggtttag	6300
1454	tttttgtcgc	gatcggcgcg	ctccttaacc	gcgatgttta	gctgcacgta	ttcqcqcqca	6360
	acgcaccgcc						
	ccgcggttgt						
	ttggtccagc						
	gtctcgtccg						
	tagtctatct						
	cgctcgtatg						
	atgccgcaaa						
	catcttccac						
1463	aggtcgggac	caaaattact	acadacadac	tactctactc	ggaagactat	ctacctaaaa	6900
	33 33340	-3~3300300		-3003000			



DATE: 09/17/2004 PATENT APPLICATION: US/10/507,237 TIME: 12:20:48

Input Set : A:\21051yp.txt

Output Set: N:\CRF4\09172004\J507237.raw

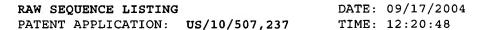
1464 atggcatgtg agttggatga tatggttgga cgctggaaga cgttgaagct ggcgtctgtg 6960 1465 agacctaccg cgtcacgcac gaaggaggcg taggagtcgc gcagcttgtt gaccagctcg 7020 1466 geggtgacet geacgtetag ggegeagtag tecagggttt cettgatgat gteataetta 7080 1467 teetgteeet ttttttteea eagetegegg ttgaggacaa actettegeg gtettteeag 7140 1468 tactcttgga tcggaaaccc gtcggcctcc gaacggtaag agcctagcat gtagaactgg 7200 1469 ttgacggcct ggtaggcgca gcatcccttt tctacgggta gcgcgtatgc ctgcgcggcc 7260 1470 ttccggagcg aggtgtgggt gagcgcaaag gtgtccctaa ccatgacttt gaggtactgg 7320 1471 tatttgaagt cagtgtcgtc gcatccgccc tgctcccaga gcaaaaagtc cgtgcgcttt 7380 1472 ttggaacgcg ggtttggcag ggcgaaggtg acatcgttga agagtatctt tcccgcgcga 7440 1473 ggcataaagt tgcgtgtgat gcggaagggt cccggcacct cggaacggtt gttaattacc 7500 1474 tgggcggcga gcacgatete gtcaaageeg ttgatgttgt ggcccacaat gtaaagttee 7560 1475 aagaagcgcg ggatgccctt gatggaaggc aattttttaa gttcctcgta ggtgagctct 7620 1476 tcaggggagc tgagcccgtg ctctgaaagg gcccagtctg caagatgagg gttggaagcg 7680 1477 acgaatgagc tccacaggtc acgggccatt agcatttgca ggtggtcgcg aaaggtccta 7740 1478 aactggcgac ctatggccat tttttctggg gtgatgcagt agaaggtaag cgggtcttgt 7800 1479 teccageggt cecatecaag gteegegget aggtetegeg eggeggteae tagaggetea 7860 1480 teteogeoga aetteatgae eageatgaag ggeaegaget getteeeaaa ggeeeceate 7920 1481 caagtatagg tetetacate gtaggtgaca aagagaeget eggtgegagg atgegageeg 7980 1482 atcgggaaga actggatctc ccgccaccag ttggaggagt ggctgttgat gtggtgaaag 8040 1483 tagaagtccc tgcgacgggc cgaacactcg tgctggcttt tgtaaaaaacg tgcgcagtac 8100 1484 tggcagcggt gcacgggctg tacatectgc acgaggttga cctgacgacc gcgcacaagg 8160 1485 aagcagagtg ggaatttgag cccctcgcct ggcgggtttg gctggtggtc ttctacttcg 8220 1486 gctgcttgtc cttgaccgtc tggctgctcg aggggagtta cggtggatcg gaccaccacg 8280 1487 ccgcgcgagc ccaaagtcca gatgtccgcg cgcggcggtc ggagcttgat gacaacatcg 8340 1489 tgcaggttta cctcgcatag ccgggtcagg gcgcgggcta ggtccaggtg atacctgatt 8460 1490 tccaggggct ggttggtggc ggcgtcgatg gcttgcaaga ggccgcatcc ccgcggcgcg 8520 1491 actacggtac cgcgcggcgg gcggtgggcc gcgggggtgt ccttggatga tgcatctaaa 8580 1492 ageggtgaeg egggeggge eeeggaggta gggggggete gggaecegee gggagagggg 8640 1493 gcaggggcac gtcggcgccg cgcgcgggca ggagctggtg ctgcgcgcgg aggttgctgg 8700 1494 cgaacgcgac gacgcggcgg ttgatctcct gaatctggcg cctctgcgtg aagacgacgg 8760 1495 gcccggtgag cttgaacctg aaagagagtt cgacagaatc aatttcggtg tcgttgacgg 8820 1496 cggcctggcg caaaatctcc tgcacgtctc ctgagttgtc ttgataggcg atctcggcca 8880 1497 tgaactgctc gatctcttcc tcctggagat ctccgcgtcc ggctcgctcc acggtggcgg 8940 1498 cgaggtcgtt ggagatgcgg gccatgagct gcgagaaggc gttgaggcct ccctcgttcc 9000 1499 agacgcggct gtagaccacg ccccttcgg catcgcgggc gcgcatgacc acctgcgcga 9060 1500 gattgagete caegtgeegg gegaagaegg egtagttteg eaggegetga aagaggtagt 9120 1501 tgagggtggt ggcggtgtgt tctgccacga agaagtacat aacccagcgc cgcaacgtgg 9180 1502 attegttgat atececeaag geeteaagge geteeatgge etegtagaag tecaeggega 9240 1503 agttgaaaaa ctgggagttg cgcgccgaca cggttaactc ctcctccaga agacggatga 9300 1504 gctcggcgac agtgtcgcgc acctcgcgct caaaggctac aggggcctct tcttcttctt 9360 1505 caateteete tteeataagg geeteeeett ettettette tggeggeggt gggggagggg 9420 1506 ggacacggcg gcgacgacgg cgcaccggga ggcggtcgac aaagcgctcg atcatctccc 9480 1507 cgcggcgacg gcgcatggtc tcggtgacgg cgcggccgtt ctcgcggggg cgcagttgga 9540 1508 agacgccgcc cgtcatgtcc cggttatggg ttggcggggg gctgccgtgc ggcagggata 9600 1509 cggcgctaac gatgcatctc aacaattgtt gtgtaggtac tccgccaccg agggacctga 9660 1510 gcgagtccgc atcgaccgga tcggaaaacc tctcgagaaa ggcgtctaac cagtcacagt 9720 1511 cgcaaggtag gctgagcacc gtggcgggcg gcagcgggcg gcggtcgggg ttgtttctgg 9780 1512 cggaggtgct gctgatgatg taattaaagt aggcggtctt gagacggcgg atggtcgaca 9840



DATE: 09/17/2004 PATENT APPLICATION: US/10/507,237 TIME: 12:20:48

Input Set : A:\21051yp.txt

1513	gaagcaccat	gtccttgggt	ccaacctact	gaatgcgcag	acaatcaacc	atgccccagg	9900
		acateggege					
		tccttcctct					
		taggtggcgc					
		ggccaggtcg					
		ctggaagtcg					
		gttggccata					
		gagacgcgag					
		gtatcccacc					
		ggctccgggg					
		ccaggtgatg					
		gttgcgcagc					
		gtcgttgacg					
		tggtggataa					
		ccgtccgccg					
		acaacggggg					
		tttggccact					
		ctcgctccct					
		agtctcgggc					
		gcttgcaaat					
		ggtgctgcgg					
		atgcagggca					
		ggcggcagat					
		ggagggcgag					
1537	caagggtgca	gctgaagcgt	gacacgcgcg	aggcgtacgt	gccgcggcag	aacctgtttc	11340
		gggagaggag					
1539	agttgcggca	tggcctgaac	cgcgagcggt	tgctgcgcga	ggaggacttt	gagcccgacg	11460
1540	cgcggaccgg	gattagtccc	gcgcgcgcac	acgtggcggc	cgccgacctg	gtaaccgcgt	11520
1541	acgagcagac	ggtgaaccag	gagattaact	ttcaaaaaag	ctttaacaac	cacgtgcgca	11580
1542	cgcttgtggc	gcgcgaggag	gtggctatag	gactgatgca	tctgtgggac	tttgtaagcg	11640
1543	cgctggagca	aaacccaaat	agcaagccgc	tcatggcgca	gctgttcctt	atagtgcagc	11700
		caacgaggca					
		cgatttgata					
		caaggtggcc					
		ataccatacc					
		catggcgctg					
		ccacaaggcc					
		cctgcaaagg					
		cgcgggcgct					
		acctgggctg					
		cgaggacgat					
		atgatgcaag					
		cttaactcca					
		aaccctgacg					
		gtggtcccgg					
		gccgaaaaca					
		cgcgtggctc					
		gtgcgcgagg					
1561	gggctccatg	gttgcactaa	acgccttcct	gagtacacag	cccgccaacg	tgccgcgggg	12780



Input Set : A:\21051yp.txt

Output Set: N:\CRF4\09172004\J507237.raw

1562 acaggaggac tacaccaact ttgtgagcgc actgcggcta atggtgactg agacaccgca 12840 1563 aaqtgaggtg tatcagtccg ggccagacta ttttttccaq accagtagac aaggcctgca 12900 1564 qaccqtaaac ctgagccagg ctttcaagaa cttgcagqqq ctqtqqqqgg tqcgggctcc 12960 1565 cacaggegac egegegaceg tgtetagett getgaegeec aactegegee tgttgetget 13020 1566 gctaatagcg cccttcacgg acagtggcag cgtgtcccgg gacacatacc taggtcactt 13080 1567 gctgacactg taccgcgagg ccataggtca ggcgcatgtg gacgagcata ctttccagga 13140 1568 gattacaagt gttagccgcg cgctggggca ggaggacacg ggcagcctgg aggcaaccct 13200 1569 gaactacctg ctgaccaacc ggcggcaaaa aatcccctcg ttgcacagtt taaacagcga 13260 1570 qqaqqaqcqc attttgcgct atgtgcagca gagcgtqagc cttaacctga tgcgcgacgg 13320 1571 qqtaacqccc aqcgtqqcqc tqqacatqac cqcqcqcaac atqqaaccgg gcatgtatgc 13380 1572 ctcaaaccgg ccgtttatca atcgcctaat ggactacttg catcgcgcgg ccgccgtgaa 13440 1573 ccccgagtat ttcaccaatg ccatcttgaa cccgcactgg ctaccgcccc ctggtttcta 13500 1574 caccggggga ttcgaggtgc ccgagggtaa cgatggattc ctctgggacg acatagacga 13560 1575 cagcgtgttt tccccgcaac cgcagacct gctagagttg caacaacgcg agcaggcaga 13620 1576 ggcggcgctg cgaaaggaaa gcttccgcag gccaagcagc ttgtccgatc taggcgctgc 13680 1577 ggccccgcgg tcagatgcta gtagcccatt tccaagcttg atagggtctc ttaccagcac 13740 1578 tegeaceaec egeeegegee tgetgggega ggaggagtae etaaacaaet egetgetgea 13800 1579 geogeagege gaaaagaace tgeeteegge gttteecaac aacgggatag agageetagt 13860 1580 ggacaagatg agtagatgga agacgtatgc gcaggagcac agggatgtgc ccggcccgcg 13920 1581 cccgcccacc cgtcgtcaaa ggcacgaccg tcagcggggt ctggtgtggg aggacgatga 13980 1582 ctcggcagac gacagcagcg tcttggattt gggagggagt ggcaacccgt ttgcacacct 14040 1583 tcgccccagg ctggggagaa tgttttaaaa aaagcatgat gcaaaataaa aaactcacca 14100 1584 aggccatggc accgagcgtt ggttttcttg tattcccctt agtatgcggc gcgcggcgat 14160 1585 qtatqaqqaa qqtcctcctc cctcctacqa qaqcqtqqtq aqcqcqqcqc caqtqgcggc 14220 1586 ggcgctgggt tcaccettcg atgetecect ggaccegecg ttcgtgcctc cgcggtacct 14280 1587 geggeetace ggggggagaa acageateeg ttactetgag ttggcaceee tattegacae 14340 1588 cacccgtgtg taccttgtgg acaacaagtc aacggatgtg gcatccctga actaccagaa 14400 1589 cqaccacaqc aactttctaa ccacqqtcat tcaaaacaat qactacaqcc cgggggaggc 14460 1590 aagcacacag accatcaatc ttgacgaccg gtcgcactgg ggcggcgacc tgaaaaccat 14520 1591 cctgcatacc aacatgccaa atgtgaacga gttcatgttt accaataagt ttaaggcgcg 14580 1592 ggtgatggtg tegegetege ttactaagga caaacaggtg gagetgaaat acgagtgggt 14640 1593 qqaqttcacq ctqcccqaqq qcaactactc cqaqaccatq accataqacc ttatgaacaa 14700 1594 cgcgatcgtg gagcactact tgaaagtggg caggcagaac ggggttctgg aaagcgacat 14760 1595 cggggtaaag tttgacaccc gcaacttcag actggggttt gacccagtca ctggtcttgt 14820 1596 catgcctggg gtatatacaa acgaagcctt ccatccagac atcattttgc tgccaggatg 14880 1597 cggggtggac ttcacccaca gccgcctgag caacttgttg ggcatccgca agcggcaacc 14940 1598 cttccaggag ggctttagga tcacctacga tgacctggag ggtggtaaca ttcccgcact 15000 1599 gttggatgtg gacgcctacc aggcaagctt gaaagatgac accgaacagg gcgggggtgg 15060 1600 cgcaggcggc ggcaacaaca gtggcagcgg cgcggaagag aactccaacg cggcagctgc 15120 1601 ggcaatgcag ccggtggagg acatgaacga tcatgccatt cgcggcgaca cctttgccac 15180 1602 acgggcggag gagaagcgcg ctgaggccga ggcagcggcc gaagctgccg cccccgctgc 15240 1603 ggaggetgea caaccegagg tegagaagee teagaagaaa eeggtgatta aacceetgae 15300 1604 agaggacage aagaaacgca gttacaacct aataagcaat gacagcacct tcacccagta 15360 1605 ccgcagctgg taccttgcat acaactacgg cgaccctcag gccgggatcc gctcatggac 15420 1606 cetgetttge acteetgacg taacetgegg eteggageag gtatactggt egttgeeega 15480 1607 catgatgcaa gaccccgtga cetteegete cacgcgccag atcagcaact tteeggtggt 15540 1608 gggcgccgag ctgttgcccg tgcactccaa gagcttctac aacgaccagg ccgtctactc 15600 1609 ccagctcatc cgccagttta cctctctgac ccacgtgttc aatcgctttc ccgagaacca 15660 1610 gattttggcg cgcccgccag ccccaccat caccaccgtc agtgaaaacg ttcctgctct 15720

Input Set : A:\21051yp.txt

1611	cacagatcac	gggacgctac	cgctgcgcaa	cagcatcgga	ggagtccagc	gagtgaccat	15780
		agacgccgca					
		tcgagccgca					
		tggggcctgc					
		ccagtgcgcg					
		gggcgcacca					
		cccacgccgc					
		cggcgctacg					
		cccggcactg					
		cgacgggcgg					
		aggtccaggc					
		cgcaggggca					
		acccgccccc					
		tatccagcgg					
		ctccaggtca					
		ccccgaaagc					
		gacgaggtgg					
		cgcgtaagac					
		acccgcacct					
		gccaacgagc					
		ccgctggacg					
		cccgcgcttg					
		cccaccgtgc					
		accgtggagc					
		ggactgggcg					
		actgccacag					
		gcggtgcagg					
		tggatgtttc					
		agcgcgctac					
		ggctacacct					
		cgccgccgcc					
		cgcgaaggag					
		aagccggtct					
		ccgggattcc					
1645	cctgacgggc	ggcatgcgtc	gtgcqcacca	ccqqcqqcgg	cgcgcgtcgc	accgtcgcat	17820
		atcctgcccc					
		tccgtggcct					
		aataaaagtc					
		atcaactttg					
1650	aaactqqcaa	gatatcggca	ccaqcaatat	qaqcqqtqqc	gccttcagct	ggggctcgct	18120
		attaaaaatt					
		ggccagatgc					
		ctggcctctg					
		aacagtaagc					
		tctccagagg					
		caaatagacg					
		cccatcgcgc					
		cctcccccg					
		acccgtccta					
	5 55	J 3		~			

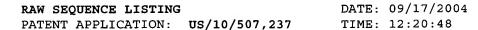
RAW SEQUENCE LISTING PATENT APPLICATION: US/10/507,237

DATE: 09/17/2004 TIME: 12:20:48

Input Set : A:\21051yp.txt

Output Set: N:\CRF4\09172004\J507237.raw

1660 gttgcggccc gtagccagtg gcaactggca aagcacactg aacagcatcg tgggtttggg 18720 1661 qqtqcaatcc ctgaagcqcc gacgatgctt ctgataqcta acqtqtcqta tgtgtgtcat 18780 1662 gtatgcgtcc atgtcgccgc cagaggagct gctgagccgc cgcgcgcccg ctttccaaga 18840 1663 tggctacccc ttcgatgatg ccgcagtggt cttacatgca catctcgggc caggacgcct 18900 1664 cggagtacct gagccccggg ctggtgcagt tcgcccgcgc caccgagacg tacttcagcc 18960 1665 tgaataacaa gtttagaaac cccacggtgg cgcctacgca cgacgtgacc acagaccggt 19020 1666 ctcagcgttt gacgctgcgg ttcatccccg tggaccgcga ggatactgcg tactcgtaca 19080 1667 aggcgcggtt caccctagct gtgggtgata accgtgtgct agacatggct tccacgtact 19140 1668 ttgacatecg eggegtgetg gacaggggee etaettttaa gecetaetet ggeaetgeet 19200 1669 acaacgcact ggcccccaag ggtgccccca actcgtgcga gtgggaacaa aatgaaactg 19260 1670 cacaagtgga tgctcaagaa cttgacgaag aggagaatga agccaatgaa gctcaggcgc 19320 1671 gagaacagga acaagctaag aaaacccatg tatatgccca ggctccactg tccggaataa 19380 1672 aaataactaa agaaggtcta caaataggaa ctgccgacgc cacagtagca ggtgccggca 19440 1673 aagaaatttt cgcagacaaa acttttcaac ctgaaccaca agtaggagaa tctcaatgga 19500 1674 acgaagegga tgccacagca gctggtggaa gggttcttaa aaagacaact cccatgaaac 19560 1675 cctgctatgg ctcatacgct agacccacca attccaacgg cggacagggc gttatggttg 19620 1676 aacaaaatgg taaattggaa agtcaagtcg aaatgcaatt tttttccaca tccacaaatg 19680 1677 ccacaaatga agttaacaat atacaaccaa cagttgtatt gtacagcgaa gatgtaaaca 19740 1678 tggaaactcc agatactcat ctttcttata aacctaaaat gggggataaa aatgccaaag 19800 1679 tcatgcttgg acaacaagca atgccaaaca gaccaaatta cattgctttt agagacaatt 19860 1680 ttattggtct catgtattac aacagcacag gtaacatggg tgtccttgct ggtcaggcat 19920 1681 cgcagttgaa cgctgttgta gatttgcaag acagaaacac agagctgtcc taccagcttt 19980 1682 tgcttgattc aattggcgac agaacaagat acttttcaat gtggaatcaa gctgttgaca 20040 1683 gctatgatcc agatgtcaga attattgaga accatggaac tgaggatgag ttgccaaatt 20100 1684 attgctttcc tcttggtgga attgggatta ctgacacttt tcaagctgtt aaaacaactg 20160 1685 ctgctaacgg ggaccaaggc aatactacct ggcaaaaaga ttcaacattt gcagaacgca 20220 1686 atgaaatagg ggtgggaaat aactttgcca tggaaattaa cctgaatgcc aacctatgga 20280 1687 gaaattteet ttaeteeaat attgegetgt acetgeeaga caagetaaaa tacaaceeca 20340 1688 ccaatgtgga aatatctgac aaccccaaca cctacgacta catgaacaag cgagtggtgg 20400 1689 ctcctgggct tgtagactgc tacattaacc ttggggcgcg ctggtctctg gactacatgg 20460 1690 acaacgttaa teeetttaac caccacegea atgegggeet gegttaeege teeatgttgt 20520 1691 tgggaaacgg ccgctacgtg ccctttcaca ttcaggtgcc ccaaaagttt tttgccatta 20580 1692 aaaacctcct cctcctgcca ggctcataca catatgaatg gaacttcagg aaggatgtta 20640 1693 acatggttct gcagagctct ctgggaaacg accttagagt tgacggggct agcattaagt 20700 1694 ttgacagcat ttgtctttac gccaccttct tccccatggc ccacaacacg gcctccacgc 20760 1695 tggaagccat gctcagaaat gacaccaacg accagtcctt taatgactac ctttccgccg 20820 1696 ccaacatgct atatcccata cccgccaacg ccaccaacgt gcccatctcc atcccatcgc 20880 1697 gcaactgggc agcatttcgc ggttgggcct tcacacgctt gaagacaaag gaaacccctt 20940 1698 ccctgggatc aggctacgac ccttactaca cctactctgg ctccatacca taccttgacg 21000 1699 gaacetteta tettaateae aeetttaaga aggtggeeat taettttgae tettetgtta 21060 1700 gctggccggg caacgaccgc ctgcttactc ccaatgagtt tgagattaag cgctcagttg 21120 1701 acqqqqaqqq ctataacqta qctcagtgca acatqacaaa qqactqqttc ctagtgcaga 21180 1702 tgttggccaa ctacaatatt ggctaccagg gcttctacat tccagaaagc tacaaagacc 21240 1703 gcatgtactc gttcttcaga aacttccagc ccatgagccg gcaagtggtg gacgatacta 21300 1704 aatacaaaga ttatcagcag gttggaatta tccaccagca taacaactca ggcttcgtag 21360 1705 gctacctcgc tcccaccatg cgcgagggac aagcttaccc cgctaatgtt ccctacccac 21420 1706 taataggcaa aaccgcggtt gatagtatta cccagaaaaa gtttctttgc gaccgcaccc 21480 1707 tgtggcgcat ccccttctcc agtaacttta tgtccatggg tgcgctcaca gacctgggcc 21540 1708 aaaaccttct ctacgcaaac tccgcccacg cgctagacat qacctttgag gtggatccca 21600



Input Set : A:\21051yp.txt

1709	tggacgagcc	cacccttctt	tatgttttgt	ttgaagtctt	tgacgtggtc	cgtgtgcacc	21660
1710	agccgcaccg	cggcgtcatc	gagaccgtgt	acctgcgcac	gcccttctcg	gccggcaacg	21720
			caacatcaac				
1712	ggaactgaaa	gccattgtca	aagatcttgg	ttgtgggcca	tattttttgg	gcacctatga	21840
1713	caagcgcttc	ccaggctttg	tttccccaca	caagctcgcc	tgcgccatag	ttaacacggc	21900
1714	cggtcgcgag	actgggggcg	tacactggat	ggcctttgcc	tggaacccgc	gctcaaaaac	21960
			ttggcttttc				
1716	tgagtacgag	tcactcctgc	gccgtagcgc	cattgcctct	tcccccgacc	gctgtataac	22080
1717	gctggaaaag	tccacccaaa	gcgtgcaggg	gcccaactcg	gccgcctgtg	gcctattctg	22140
			ttgccaactg				
1719	catgaacctt	attaccgggg	tacccaactc	catgcttaac	agtccccagg	tacagcccac	22260
			agctctacag				
1721	cagccacagt	gcgcaaatta	ggagcgccac	ttctttttgt	cacttgaaaa	acatgtaaaa	22380
1722	ataatgtact	aggagacact	ttcaataaag	gcaaatgttt	ttatttgtac	actctcgggt	22440
1723	gattatttac	ccccaccctt	gccgtctgcg	ccgtttaaaa	atcaaagggg	ttctgccgcg	22500
			agggacacgt				
1725	actcaggcac	aaccatccgc	ggcagctcgg	tgaagttttc	actccacagg	ctgcgcacca	22620
			tcgggcgccg				
			tacacagggt				
			ctcttgtcgg				
			aactttggta				
			cgtagtggca				
			aaagccttga				
			caagacttgc				
			tcggtgttgg				
			ctagactgct				
			tgctccttat				
			cagcggtgca				
			aacgactgca				
			gtgaaggtca				
			agagcttcca				
			tacttgtcca				
			aggctcagcg				
			tcttgcatcc				
			ttacctccct				
			gccacatctt				
			ggcttgggag				
			gtcgatggcc				
			tcctcggact				
			gacggcgacg				
			cgctcggggg				
			cagaaaaaga				
			gccaccaccg				
			ccgcttgagg				
			gaagatcgct				
			gaggaacaag				
			gtgctgttga				
			agcgatgtgc				
1/5/	acgaacgcca	cctgttctca	ccgcgcgtac	ccccaaacg	ccaagaaaac	ggcacatgcg	24540

Input Set : A:\21051yp.txt

1758	aggccaaccc	gcgcctcaac	ttctaccccg	tatttgccgt	accagaggta	cttgccacct	24600
			tgcaagatac				
			cggcagggcg				
			ggtcttggac				
			gaaagtcact				
			aaacgcagca				
			atgagcacag				
			aacttgcaag				
			tggcttgaga				
			gtgcttgtta				
			cgcaagctag				
			aaaatttcca				
			cgccttgggc				
			cgcgactgcg				
			cagtgcctgg				
			gacctatgga				
			cccgaacgcc				
			ttgcaaaact				
			gcgcttccta				
			cactgctacc				
			gtgagcggtg				
			tccctggtct				
			cagggtccct				
			tggacgtcgg				
			ttctacgaag				
			ggccacatcc				
			aagggacggg				
			ccgccgcagc				
			gctgcagctg				
			ggaggttttg				
			ttccgaggcc				
			ggcgccccag				
			gccggcactg				
			taagtctaag				
1792	cagcgccaag	gctaccgctc	gtggcgcgtg	cacaagaacg	ccatagttgc	ttgcttgcaa	26640
1793	gactgtgggg	gcaacatctc	cttcgcccgc	cgctttcttc	tctaccatca	cggcgtggcc	26700
			ttactaccgt				
1795	agcggcagca	acagcagcgg	ccacgcagaa	gcaaaggcga	ccggatagca	agactctgac	26820
1796	aaagcccaag	aaatccacag	cggcggcagc	agcaggagga	ggagcactgc	gtctggcgcc	26880
			gcgagcttag				
1798	atttcaacag	agcaggggcc	aagaacaaga	gctgaaaata	aaaaacaggt	ctctgcgctc	27000
			atcacaaaag				
			aatactgcgc				
			aactacgtca				
			gcaaggaaat				
			gagctgccca				
			cccgggtcaa				
			ccaccacacc				
			aaagtcccgc				

**RAW SEQUENCE LISTING**PATENT APPLICATION: **US/10/507,237**DATE: 09/17/2004

TIME: 12:20:48

Input Set : A:\21051yp.txt

Output Set: N:\CRF4\09172004\J507237.raw

1807 ccaggccgaa gttcagatga ctaactcagg ggcgcagctt gcgggcggct ttcgtcacag 27540 1808 ggtgcggtcg cccgggcagg gtataactca cctgaaaatc agagggcgag gtattcagct 27600 1809 caacgacgag teggtgaget cetetettgg teteegteeg gaegggacat tteagategg 27660 1810 eggegetgge egetetteat ttaegeceeg teaggegate etaactetge agacetegte 27720 1811 ctcggagccg cgctccqqaq qcattqgaac tctacaattt attqaqqaqt tcgtgccttc 27780 1812 ggtttacttc aacccctttt ctggacctcc cggccactac ccggaccagt ttattcccaa 27840 1813 ctttgacgcg gtaaaagact cggcggacgg ctacgactga atgaccagtg gagaggcaga 27900 1814 geaactgege etgacacace tegaceactg eegeegeeac aagtgetttg eeegeggete 27960 1815 cggtgagttt tgttactttg aattgeeega agageatate gagggeeegg egeaeggegt 28020 1816 ccggctcacc acccaggtag agcttacacg tagcctgatt cgggagttta ccaagcgccc 28080 1817 cctgctagtg gagcgggagc ggggtccctg tgttctgacc gtggtttgca actgtcctaa 28140 1818 ccctggatta catcaagatc tttgttgtca tctctgtgct gagtataata aatacagaaa 28200 1819 ttagaatcta ctggggctcc tgtcgccatc ctgtgaacgc caccgttttt acccacccaa 28260 1821 ggtactttaa cggctcttca tttgtaattt acaacagttt ccagcgagac gaagtaagtt 28380 1822 tgccacacaa ccttctcggc ttcaactaca ccgtcaagaa aaacaccacc accaccctcc 28440 1823 teacetgeeg ggaacgtaeg agtgegteae eggttgetge geceaeacet acageetgag 28500 1824 cgtaaccaga cattactccc attttcccaa aacaggaggt gagctcaact cccggaactc 28560 1825 aggtcaaaaa agcattttgc ggggtgctgg gattttttaa ttaagtatat gagcaattca 28620 1826 agtaactcta caagcttqtc taatttttct qqaattqqqq tcqqqgttat ccttactctt 28680 1827 gtaattetgt ttattettat actageaett etgtgeetta gggttgeege etgetgeaeg 28740 1828 cacgtttgta cctattgtca gctttttaaa cgctgggggc gacatccaag atgaggtaca 28800 1829 tgattttagg cttgctcgcc cttgcggcag tctgcagcgc tgccaaaaag gttgagttta 28860 1830 aggaaccage ttgcaatgtt acatttaaat cagaagetaa tgaatgcact actettataa 28920 1831 aatqcaccac agaacatqaa aaqcttatta ttcqccacaa agacaaaatt gqcaagtatg 28980 1832 ctgtatatgc tatttggcag ccaggtgaca ctaacgacta taatgtcaca gtcttccaag 29040 1833 qtqaaaatcq taaaactttt atqtataaat ttccatttta tqaaatqtqc qatattacca 29100 1834 tgtacatqaq caaacagtac aagttgtggc ccccacaaaa gtgtttagag aacactggca 29160 1835 cettttgtte cacegetetg ettattacag egettgettt ggtatgtace ttaetttate 29220 1836 tcaaatacaa aagcagacgc agttttattg atgaaaagaa aatgccttga ttttccgctt 29280 1837 gettgtatte ecctggacaa tttactetat gtgggatatg egecaggegg gaaagattat 29340 1838 acceacaace tteaaateaa acttteetgg acqttagege etgaettetg eeagegeetg 29400 1839 cactgcaaat ttgatcaaac ccagcttcag cttgcctgct ccagagatga ccggctcaac 29460 1840 categegeec acaaeggaet ategeaacae eactgetace ggaetaaaat etgeeetaaa 29520 1841 tttaccccaa gttcatgcct ttgtcaatga ctgggcgagc ttgggcatgt ggtggttttc 29580 1842 catagogott atgtttgttt goottattat tatgtggott atttgttgcc taaagogoag 29640 1843 acgcgccaga cccccatct ataggcctat cattgtgctc aacccacaca atgaaaaaat 29700 1844 tcatagattg gacggtctca aaccatgttc tcttctttta cagtatgatt aaatgagaca 29760 1845 tgatteeteg agteettata ttattgacce ttgttgeget tttetgtgeg tgetetacat 29820 1846 tggctgcggt cgctcacatc gaagtagatt gcatcccacc tttcacagtt tacctgcttt 29880 1847 acggatttgt caccettate etcatetgea geetegteae tgtagteate geetteatte 29940 1848 agttcattga ctgqatttgt gtgcgcattg cgtaccttag gcaccatccg caatacagag 30000 1849 acaggactat agctgatctt ctcagaattc tttaattatg aaacggattg tcacttttgt 30060 1850 tttgctgatt ttctgcgccc tacctgtgct ttgctcccaa acctcagcgc ctcccaaaag 30120 1851 acatatttcc tgcagattca ctcaaatatg gaacattccc agctgctaca acaaacagag 30180 1852 cqatttqtca qaaqcctqqt tatacqccat catctctqtc atqqtttttt qcaqtaccat 30240 1853 ttttgcccta gccatatacc cataccttga cattggttgg aatgccatag atgccatgaa 30300 1854 ccaccctact ttcccagcgc ccaatgtcat accactgcaa caggttattg ccccaatcaa 30360 1855 tragcetrege receettete cracererae tgagattage tactttaatt tgaraggtgg 30420

Input Set : A:\21051yp.txt

Output Set: N:\CRF4\09172004\J507237.raw

1856 agatgactga atctctagat ctagaattgg atggaattaa caccgaacag cgcctactag 30480 1857 aaaggegeaa ggeggegtee gagegagaae geetaaaaca agaagttgaa gacatggtta 30540 1858 acctgcacca gtgtaaaaga ggtatetttt gtgtggtcaa gcaggccaaa cttacctacg 30600 1859 aaaaaaccac taccqqcaac cqccttagct acaaqctacc cacccagcgc caaaaactgg 30660 1860 tqcttatqqt qqqaqaaaaa cctatcaccq tcacccagca ctcqqcagaa acagaagqct 30720 1861 geetgeactt eeeetateag ggteeagagg acetetgeac tettattaaa aceatgtgtg 30780 1862 gcattagaga tottattoca ttoaactaac aataaacaca caataaatta ottaottaaa 30840 1863 atcagtcagc aaatctttgt ccagcttatt cagcatcacc tcctttccct cctcccaact 30900 1864 ctggtatttc agcagccttt tagctgcgaa ctttctccaa agtctaaatg ggatgtcaaa 30960 1865 ttcctcatgt tcttgtccct ccqcacccac tatcttcata ttgttgcaga tgaaacgcgc 31020 1866 cagacegtet gaagacacet teaaceetgt gtacecatat gacaeggaaa ceggeeetee 31080 1867 aactgtgcct ttccttaccc ctccctttgt gtcgccaaat gggttccaag aaagtccccc 31140 1868 cqqaqtqctt tctttqcqtc tttcaqaacc tttqqttacc tcacacqgca tqcttqcqct 31200 1869 aaaaatgggc agcggcctgt ccctggatca ggcaggcaac cttacatcaa atacaatcac 31260 1870 tgtttctcaa ccgctaaaaa aaacaaagtc caatataact ttggaaacat ccgcgcccct 31320 1871 tacagtcagc tcaggcgccc taaccatggc cacaacttcg cctttggtgg tctctgacaa 31380 1872 cactettace atgeaateae aageaceget aacegtgeaa gaeteaaaae ttageattge 31440 1873 taccaaagag ccacttacag tgttagatgg aaaactggcc ctgcagacat cagccccct 31500 1874 ctctgccact gataacaacg ccctcactat cactgcctca cctcctctta ctactgcaaa 31560 1875 tggtagtctg gctgttacca tggaaaaccc actttacaac aacaatggaa aacttgggct 31620 1876 caaaattggc ggtcctttgc aagtggccac cgactcacat gcactaacac taggtactgg 31680 1877 tcagggggtt gcagttcata acaatttgct acatacaaaa gttacaggcg caatagggtt 31740 1878 tgatacatet ggcaacatgg aacttaaaac tggagatggc etetatgtgg atagegeegg 31800 1879 toctaaccaa aaactacata ttaatctaaa taccacaaaa qqccttqctt ttqacaacac 31860 1880 cgcaataaca attaacgctg gaaaagggtt ggaatttgaa acagactcct caaacggaaa 31920 1881 tcccataaaa acaaaaattg gatcaggcat acaatataat accaatggag ctatggttgc 31980 1882 aaaacttgga acaggcctca gttttgacag ctccggagcc ataacaatgg gcagcataaa 32040 1883 caatgacaga cttactcttt ggacaacacc agacccatcc ccaaattgca gaattgcttc 32100 1884 agataaagac tgcaagctaa ctctggcgct aacaaaatgt ggcagtcaaa ttttgggcac 32160 1885 tgtttcaget ttggcagtat caggtaatat ggcctccatc aatggaactc taagcagtgt 32220 1886 aaacttggtt cttagatttg atgacaacgg agtgcttatg tcaaattcat cactggacaa 32280 1887 acagtattgg aactttagaa acggggactc cactaacggt caaccataca cttatgctgt 32340 1888 tgggtttatg ccaaacctaa aagcttaccc aaaaactcaa agtaaaactg caaaaagtaa 32400 1889 tattgttagc caggtgtatc ttaatggtga caagtctaaa ccattgcatt ttactattac 32460 1890 gctaaatgga acagatgaaa ccaaccaagt aagcaaatac tcaatatcat tcagttggtc 32520 1891 ctggaacagt ggacaataca ctaatgacaa atttgccacc aattcctata ccttctccta 32580 1892 cattgcccag gaataaagaa tcgtgaacct gttgcatgtt atgtttcaac gtgtttattt 32640. 1893 ttcaattgca gaaaatttca agtcattttt cattcagtag tatagcccca ccaccacata 32700 1894 gettataeta ateacegtae ettaateaaa eteacagaae eetagtatte aacetgeeae 32760 1895 ctccctccca acacacagag tacacagtcc tttctccccg gctggcctta aacagcatca 32820 1896 tatcatgggt aacagacata ttcttaggtg ttatattcca cacggtctcc tgtcgagcca 32880 1897 aacgctcatc agtgatgtta ataaactccc cgggcagctc gcttaagttc atgtcgctgt 32940 1898 ccagctgctg agccacaggc tgctgtccaa cttgcggttg ctcaacgggc ggcgaaggag 33000 1899 aagtccacgc ctacatgggg gtagagtcat aatcgtgcat caggataggg cggtggtgct 33060 1900 gcagcagcgc gcgaataaac tgctgccgcc gccgctccgt cctgcaggaa tacaacatgg 33120 1901 cagtggtete etcagegatg attegeaceg eeegeageat aaggegeett gteeteeggg 33180 1902 cacagcageg caccetgate teaettaagt cageacagta aetgeageae agtaceacaa 33240 1903 tattgtttaa aatcccacag tgcaaggcgc tgtatccaaa gctcatggcg gggaccacag 33300 1904 aacccacgtg gccatcatac cacaagcgca ggtagattaa gtggcgaccc ctcataaaca 33360

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/507,237

DATE: 09/17/2004 TIME: 12:20:48

Input Set : A:\21051yp.txt

```
1905 cgctggacat aaacattacc tettttggca tgttgtaatt caccacctcc cggtaccata 33420
     1906 taaacctctg attaaacatg gcgccatcca ccaccatcct aaaccagctg gccaaaacct 33480
     1907 geocgeogge tatgeactge agggaacegg gactggaaca atgacagtgg agageocagg 33540
     1908 actcgtaacc atggatcatc atgctcgtca tgatatcaat gttggcacaa cacaggcaca 33600
     1909 cgtgcataca cttcctcagg attacaagct cctcccgcgt cagaaccata tcccagggaa 33660
     1910 caacccattc ctgaatcagc gtaaatccca cactgcaggg aagacctcgc acgtaactca 33720
     1911 cgttgtgcat tgtcaaagtg ttacattcgg gcagcagcgg atgatcctcc agtatggtag 33780
     1912 cgcgtgtctc tgtctcaaaa ggaggtaggc gatccctact gtacggagtg cgccgagaca 33840
     1913 accgagateg tgttggtegt agtgteatge caaatggaae geeggaegta gteatattte 33900
     1914 ctgaagcaaa accaggtgcg ggcgtgacaa acagatctgc gtctccggtc tcgtcgctta 33960
     1915 getegetetg tgtagtagtt gtagtatate eactetetea aageateeag gegeeecetg 34020
     1916 gettegggtt etatgtaaac teetteatge geegetgeee tgataacate caccacegea 34080
    1917 gaataagcca cacccagcca acctacacat tcgttctgcg agtcacacac gggaggagcg 34140
     1918 ggaagagctg gaagaaccat gtttttttt tttattccaa aagattatcc aaaacctcaa 34200
     1919 aatgaagatc tattaagtga acgcgctccc ctccggtggc gtggtcaaac tctacagcca 34260
     1920 aagaacagat aatggcattt gtaagatgtt gcacaatggc ttccaaaagg caaactgccc 34320
     1921 tcacgtccaa gtggacgtaa aggctaaacc cttcagggtg aatctcctct ataaacattc 34380
     1922 cagcaccttc aaccatgccc aaataatttt catctcgcca ccttatcaat atgtctctaa 34440
     1923 gcaaatcccg aatattaagt ccggccattg taaaaatctg ctccagagcg ccctccacct 34500
     1924 tcagcctcaa gcagcgaatc atgattgcaa aaattcaggt tcctcacaga cctgtataag 34560
     1925 attcaaaagc ggaacattaa caaaaatacc gcgatcccgt aggtcccttc gcagggccag 34620
     1926 ctgaacataa tcgtgcaggt ctgcacggac cagcgcggcc acttccccgc caggaaccat 34680
     1927 gacaaaagaa cccacactga ttatgacacg catactcgga gctatgctaa ccagcgtagc 34740
     1928 cccqatqtaa qcttqttqca tqqqcqqcqa tataaaatqc aaqqtactqc tcaaaaaatc 34800
     1929 aggcaaagcc tcgcgcaaaa aagcaagcac atcgtagtca tgctcatgca gataaaggca 34860
     1930 ggtaagttcc ggaaccacca cagaaaaaga caccattttt ctctcaaaca tgtctgcggg 34920
     heeds to
be relaised
(see p. 14)
(for ever
epolaration)
E--> 1932 tgtnttacaa caggaaaaac aaccettata agcataagac ggactacgge catgeeggeg 35040
     1933 tgaccgtaaa aaaactggtc accgtgatta aaaagcacca ccgacagttc ctcggtcatg 35100
     1934 tccggagtca taatgtaaga ctcggtaaac acatcaggtt ggttaacatc ggtcagtgct 35160
    1935 aaaaagcgac cgaaatagcc cgggggaata catacccgca ggcgtagaga caacattaca 35220
     1936 gcccccatag gaggtataac aaaattaata ggagagaaaa acacataaac acctgaaaaa 35280
     1937 ccctcctgcc taggcaaaat agcaccetcc cgctccagaa caacatacag cgcttccaca 35340
    1938 gcggcagcca taacagtcag ccttaccagt aaaaaaacct attaaaaaac accactcgac 35400
    1939 acggcaccag ctcaatcagt cacagtgtaa aaagggccaa gtacagagcg agtatatata 35460
    1940 ggactaaaaa atgacgtaac ggttaaagtc cacaaaaacc acccagaaaa ccgcacgcga 35520
    1941 acctacgccc agaaacgaaa gccaaaaaac ccacaacttc ctcaaatctt cacttccgtt 35580
    1942 ttcccacgat acgtcacttc ccattttaaa aaaaaactac aattcccaat acatgcaagt 35640
    1943 tactccgccc taaaacctac gtcacccgcc ccgttcccac gccccgcgcc acgtcacaaa 35700
    1944 ctccaccccc tcattatcat attggcttca atccaaaata aggtatatta ttqatgatq 35759
```

VARIABLE LOCATION SUMMARY PATENT APPLICATION: US/10/507,237 DATE: 09/17/2004

TIME: 12:20:49

Input Set : A:\21051yp.txt

Output Set: N:\CRF4\09172004\J507237.raw

Use of n's or Xaa's (NEW RULES):

Use of n's and/or Xaa's have been detected in the Sequence Listing. Use of <220> to <223> is MANDATORY if n's or Xaa's are present. in <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.

Seq#:5; N Pos. 34984

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/507,237

DATE: 09/17/2004 TIME: 12:20:49

Input Set : A:\21051yp.txt

Output Set: N:\CRF4\09172004\J507237.raw

L:16 M:270 C: Current Application Number differs, Replaced Current Application No

L:16 M:271 C: Current Filing Date differs, Replaced Current Filing Date L:1932 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:5